AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. *(Previously Presented)* Method of providing a radio frequency output signal, comprising the steps of:

determining an instantaneous size measure of an input signal, said size measure being an amplitude or therefrom derivable quantity;

deriving a drive signal from said input signal;

providing a bias signal, being dependent on said instantaneous size measure; and

amplifying said drive signal using a bias level according to said bias signal into said radio frequency output signal;

whereby said bias signal dependency on said instantaneous size measure gives rise to an increased nonlinearity in said amplifying step.

2. *(Previously Presented)* Method according to claim 1, whereby said bias signal gives an amplification according to one of class C and class B for instantaneous size measures within a first amplitude range, and said bias signal being higher than class B amplification for instantaneous size measures above said first amplitude range.

3. *(Previously Presented)* Method according to claim 2, whereby said bias signal is controlled to give essentially a class A bias level at maximum amplitude.

4. *(Previously Presented)* Method according to claim 1, whereby said bias signal providing step is controlled for producing a predetermined output characteristics, whereby a bias signal amplitude-averaged over an amplitude interval comprising all amplitudes in an entire amplitude range supported by said amplifying step above a first amplitude is higher than a bias signal amplitude-averaged over said entire amplitude range.

5. *(Previously Presented)* Method according to claim 1, wherein said deriving step comprises the step of modifying said input signal.

6. *(Previously Presented)* Method according to claim 5, wherein said deriving step comprises the step of pre-distorting said input signal dependent on said instantaneous size measure.

7. *(Previously Presented)* Method according to claim 5, wherein said deriving step comprises the step of modifying said input signal by a feedback arrangement.

8. *(Previously Presented)* Method according to claim 1, wherein said bias signal is controlled to, for all amplitudes within a first amplitude range, increase with increasing amplitude.

9. *(Previously Presented)* Method according to claim 1, wherein said bias signal is controlled to be, for all amplitudes within a second amplitude range, lower than said bias signal amplitude-averaged over said entire amplitude range.

10. *(Previously Presented)* Method according to claim 8, wherein said first amplitude range comprises maximum amplitude.

11. *(Previously Presented)* Method according to claim 6, comprising the further steps of:

selecting a pre-distortion function having a predetermined bandwidth; and

adapting bias signal according to said pre-distortion function.

12. *(Previously Presented)* Method according to claims 11, wherein said pre-distortion function contains predominantly low-order components.

13. *Previously Presented)* Method according to claim 6, comprising the further steps of:

selecting said bias signal according to predetermined relations; and

adapting said pre-distortion function according to said bias signal.

14. *(Previously Presented)* Method according to claim 1, wherein said output characteristics, at least for a third amplitude range, is linear.

15. (*Previously Presented)* Method according to claim 14, wherein said output characteristics is substantially linear over the entire amplitude range.

16. *(Previously Presented)* Method according to claim 1, wherein said output characteristics comprises a substantially zero output signal within a fourth amplitude range.

17. *(Previously Presented)* Method according to claim 1, comprising the further steps of:

determining a feedback signal of said radio frequency output signal; and

adapting said drive signal and/or said bias signal according to said feedback signal.

18. *(Previously Presented)* Method according to claim 6, comprising the further step of:

causing said pre-distorting and bias signal providing steps to be simultaneous at the input of said amplification.

19. *(Previously Presented)* Method according to claim 18, wherein said causing step in turn comprises at least one of the steps of:

inverse filtering of said drive signal with respect to a first signal path to an amplifying element;

delay compensation of said drive signal with respect to said first signal path to an amplifying element;

inverse filtering of said bias signal with respect to a second signal path to said amplifying element; and

delay compensation of said bias signal with respect to said second signal path to said amplifying element.

20. *(Previously Presented)* Method according to claim 1, comprising the further step of:

compensating current saturation at high amplitude end.

21. *(Previously Presented)* Use of a method according to claim 1 in a radio frequency amplifier arrangement of a type selected from the list of:

Doherty amplifier arrangement;

Chireix amplifier arrangement; and

amplifier arrangements using envelope and restoration enhancement techniques.

22. *(Previously Presented)* Radio frequency power amplifier, comprising:

input signal terminal;

input detector arranged to determine an instantaneous size measure of a signal on said input signal terminal, said size measure being an amplitude or therefrom derivable quantity;

drive signal deriving means connected to said input signal terminal, providing a drive signal;

bias signal generator providing a bias signal, said bias signal generator being connected to said input detector and being controlled dependent on said instantaneous size measure; and

amplifying element, connected to said drive signal deriving means and said bias signal generator;

whereby said bias signal generator being controlled to gives rise to an increased nonlinearity in said amplifying element.

23. *(Previously Presented)* Radio frequency power amplifier according to claim 22, wherein said bias signal generator is arranged to give an amplification in said amplifying element according to one of class C and class B for instantaneous size measures within a first amplitude

range, and to give a bias signal being higher than class B amplification for instantaneous size measures above said first amplitude range.

24. *(Previously Presented)* Radio frequency power amplifier according to claim 22, wherein said bias signal generator is arranged to give a bias signal amplitude-averaged over an amplitude interval comprising all amplitudes in an entire amplitude range supported by said amplifying element above a first amplitude is higher than a bias signal amplitude-averaged over said entire amplitude range.

25. *(Previously Presented)* Radio frequency power amplifier according to claim 22, wherein said drive signal deriving means comprises pre-distorting means connected to said input detector, being controlled dependent on said instantaneous size measure.

26. *(Previously Presented)* Radio frequency power amplifier according to claim 22, wherein said bias signal generator in turn comprises means giving a bias signal, which for all amplitudes within a first amplitude range, increase with increasing amplitude.

27. *(Previously Presented)* Radio frequency power amplifier according to claim 22, wherein said bias signal generator in turn comprises means giving a bias signal, which for all amplitudes within a second amplitude range, is lower than an amplitude-averaged bias signal.

28. *(Previously Presented)* Radio frequency power amplifier according to claim 25, further comprising:

feed-back arrangement, in turn comprising a feedback sensor monitoring said output of said amplifier element and adaptation means connected said bias signal generator and said pre-distortion means for providing said bias signal generator and said pre-distortion means with a feedback signal;

said bias signal generator and said pre-distortion means being arranged to adapt their actions according to said feedback signal.

29. *(Previously Presented)* Radio frequency power amplifier according to claim 22, further comprising:

simultaneousness-causing means for causing said drive signal and bias signal to be simultaneous at in input of said amplifying element.

30. *(Previously Presented)* Radio frequency power amplifier according to claim 29, wherein said coincidence causing means in turn comprises at least one of:

inverse filter connected between said pre-distortion means and said amplifying element, for compensating for a first signal path to said amplifying element; and

inverse filter connected between said bias signal generator and said amplifying element, for compensating for a second signal path to said amplifying element.

31. *(Previously Presented)* Composite radio frequency power amplifier, comprising at least one radio frequency power amplifier according to claim 22 as a sub-amplifier.

32. *(Previously Presented)* Composite radio frequency power amplifier according to claim 31, wherein said composite radio frequency power amplifier is selected from the list of:

Doherty amplifier arrangement;

Chireix amplifier arrangement; and

amplifier arrangements using envelope elimination and restoration techniques.

33. *(Previously Presented)* Transmitter, having a radio frequency power amplifier, said radio frequency power amplifier comprising:

input signal terminal;

input detector arranged to determine an instantaneous size measure of a signal on said input signal terminal, said size measure being an amplitude or therefrom derivable quantity;

drive signal deriving means connected to said input signal terminal, providing a drive signal;

bias signal generator providing a bias signal, said bias signal generator being connected to said input detector and being controlled dependent on said instantaneous size measure; and

amplifying element, connected to said drive signal deriving means and said bias signal generator;

whereby said bias signal generator being controlled to gives rise to an increased nonlinearity in said amplifying element.

34. *(Previously Presented)* Transmitter according to claim 33, wherein said bias signal generator is arranged to give an amplification in said amplifying element according to one of class C and class B for instantaneous size measures within a first amplitude range, and to give a

bias signal being higher than class B amplification for instantaneous size measures above said first amplitude range.

35. *(Previously Presented)* Transmitter according to claim 33, wherein said bias signal amplitude-averaged over an amplitude interval comprising all amplitudes in an entire amplitude range supported by said amplifying element above a first amplitude is higher than a bias signal amplitude-averaged over said entire amplitude range.

36. *(Previously Presented)* Transmitter according to claim 33, wherein said drive signal deriving means comprises pre-distorting means connected to said input detector, being controlled dependent on said instantaneous size measure.

37. *(Previously Presented)* Transmitter according to claim 33, wherein said bias signal generator in turn comprises means giving a bias signal, which for all amplitudes within a first amplitude range, increase with increasing amplitude.

38. *(Previously Presented)* Transmitter according to claim 33, wherein said bias signal generator in turn comprises means giving a bias signal, which for all amplitudes within a second amplitude range, is lower than an amplitude-averaged bias signal.

39. *(Previously Presented)* Transmitter according to claim 38, wherein said second amplitude range covers at least half the amplitude distribution.

40. *(Previously Presented)* Transmitter according to claim 38, wherein said pre-distortion means comprises means for making said drive signal larger than said input signal at least in said second amplitude range.

41. *(Currently Amended)* Wireless communication system, having a radio frequency power amplifier, said radio frequency power amplifier comprising:

input signal terminal;

input detector arranged to determine an instantaneous size measure of a signal on said input signal terminal, said size measure being an amplitude or therefrom derivable quantity;

drive signal deriving means connected to said input signal terminal, providing a drive signal;

bias signal generator providing a bias signal, said bias signal generator being connected to said input detector and being controlled dependent on said instantaneous size measure; and

amplifying element, connected to said drive signal deriving means and said bias signal generator;

whereby said bias signal generator being controlled ~~to~~ gives rise to an increased nonlinearity in said amplifying element.

42. *(Currently Amended)* Base station of a wireless communication system, having a radio frequency power amplifier, said radio frequency power amplifier comprising:

input signal terminal;

input detector arranged to determine an instantaneous size measure of a signal on said input signal terminal, said size measure being an amplitude or therefrom derivable quantity;

drive signal deriving means connected to said input signal terminal, providing a drive signal;

bias signal generator providing a bias signal, said bias signal generator being connected to said input detector and being controlled dependent on said instantaneous size measure; and

amplifying element, connected to said drive signal deriving means and said bias signal generator;

whereby said bias signal generator being controlled ~~to~~ gives rise to an increased nonlinearity in said amplifying element.

43. *(Currently Amended)* Mobile unit of a wireless communication system, having a radio frequency power amplifier, said radio frequency power amplifier comprising:

input signal terminal;

input detector arranged to determine an instantaneous size measure of a signal on said input signal terminal, said size measure being an amplitude or therefrom derivable quantity;

drive signal deriving means connected to said input signal terminal, providing a drive signal;

bias signal generator providing a bias signal, said bias signal generator being connected to said input detector and being controlled dependent on said instantaneous size measure; and

amplifying element, connected to said drive signal deriving means and said bias signal generator;

whereby said bias signal generator being controlled ~~to~~ gives rise to an increased nonlinearity in said amplifying element.